

**UTILITY OPERATIONS TECHNICIAN
(FACILITIES)
207**

DEPARTMENT: James City Service Authority/Utility Operations/Facility Management

NATURE OF WORK:

Performs skilled work troubleshooting operational problems and performing second echelon level maintenance, repair, and overhaul of the James City Service Authority's wastewater mechanical systems. Duties are performed under the general supervision of the Wastewater Maintenance Superintendent. Serves as a senior or lead worker over semiskilled work within the wastewater systems.

ESSENTIAL FUNCTIONS OF THE JOB:

Performs complex mechanical work in operation, maintenance, and repair of wastewater mechanical, alarm and control systems. Diagnoses operational and mechanical problems within all Service Authority wastewater assets.

Evaluates all associated pump operations. Calculates gallons per minutes and total static and dynamic head conditions. Calculates pump parameters and adjusts impeller diameters and operating clearances to maintain pump operation at peak effectiveness for the present conditions found in the changing service areas. Balances residential demand, pump curves and fluctuating force main head pressures to assure the proper selection of pump operating conditions.

Installs station analysis and force main pressure recording instruments. Extrapolates data, analyzes via computer systems, and modifies equipment operating conditions accordingly. Determines need and then submits work orders for repairs associated with infrastructure inflow and infiltration.

Wastewater Maintenance Operations:

Serves as field representative for station rehabilitations, modifications and intersectional maintenance operations for the sewerage system stations.

Performs all manners of new system installations, to include vapor carbon control systems and Supervisory Control and Data Acquisition Systems. Modifies outmoded pump drive systems and controls by incorporating state of the art electronic transducers and proximity sensors.

Diagnoses problems with pumps, diesel generator sets and motors. Removes and replaces all pumps, motors and drive lines. Performs all repairs and overhauls for the second echelon level maintenance. Removes, replaces, and overhauls all facility gate and check valves.

Evaluates pH, dissolved oxygen, H₂S, Oxygen-Reducing Potentials and bacteria levels for wastewater evaluation and odor control.

Sizes, services and replaces ventilation systems in wet wells and machinery spaces in conjunction with the Department of Health criteria and changing station requirements.

Performs all diesel oil changes, fuel injection system services, and cooling system changes.

Trains Assistant and Specialist wastewater personnel in second echelon level of maintenance, diagnosis, and repair.

General Responsibilities:

Serves on the Wastewater Mechanical On-Call roster. Responds to emergency calls at all hours.

Extracts technical data from automated record keeping systems.

Serves as the Confined Space Authorized Person for *No Potential*, *Low Potential*, and *Hazardous* atmosphere environments, and associated Lockout/Tagout Procedures.

Ensures compliance with all VOSH, OSHA, Department of Health and JCSA Safety Manual regulations in the performance of their duties.

Maintains tools, vehicles, and job related technical equipment.

Assists on work crews in other divisions as assigned.

Operates equipment safely and reports any unsafe work condition or practice to the Wastewater Superintendent.

Performs other related duties as assigned.

JOB LOCATION AND EQUIPMENT OPERATED:

Duties are performed outdoors in all weather conditions at various lift stations (and well facilities when directed) throughout the County. Duties are performed under disagreeable, and sometimes hazardous conditions. Requires climbing up and down ladders into wells and manholes. Performs manual labor utilizing hand tools and other power operated equipment as required. Drives County vehicles to work sites.

REQUIRED KNOWLEDGE, SKILLS, AND ABILITIES:

Considerable knowledge in the fields of mechanical maintenance, plumbing, and basic electrical work.

Must be proficient in the use of precision hand tools (micrometers, clearance gauges, etc.).

Must be proficient with basic algebraic equations.

Must be computer literate in WordPerfect (or equivalent word processing program) and Windows applications.

Considerable knowledge of the safe and effective use of hand and power tools and a variety of associated craft equipment.

Ability to follow oral and written instructions.

Ability to work in disagreeable conditions.

Ability to perform strenuous physical labor.

Ability to work effectively as a team member or as an individual, while establishing and maintaining harmonious working relationships.

MINIMUM QUALIFICATIONS:

High school diploma or equivalent, supplemented by technical training in a related field, such as diesel engines, mechanics, plumbing, etc.

Considerable experience in wastewater systems operation or related field; or any equivalent combination of education and experience providing the required knowledge, skills, and abilities.

NECESSARY SPECIAL QUALIFICATIONS:

Must possess a valid Virginia driver's license and have acceptable driving record based upon James City County's criteria.

Must possess the ability and tolerance to function in an environment that requires the use of respiratory protection devices. Must be able to fulfill all requirements of the JCSA's Respiratory Protection Program.

IDENTIFICATION OF GENERAL APTITUDES AND PHYSICAL REQUIREMENTS

Position Title Utility Operations Technician Position Number 207
Department JCSA (Facility Maintenance) Division Utility Operations

The Americans with Disabilities Act requires that we identify the general aptitudes and physical requirements needed to perform the job listed above. Individuals who have the position must be able to perform all essential job functions unaided or with reasonable accommodation.

I. *Mental Abilities:* General learning ability. The ability to “catch on” or understand instructions and underlying principles.

- ☒ Ability to understand and follow oral instruction
- ☒ Ability to understand and follow written instruction
- ☒ Ability to guide and/or give instructions
- ☒ Ability to make decisions in accordance with established procedures and policies
- ☐ Not essential to job function

II. *Verbal Abilities:* Ability to understand meanings of words and ideas associated with them and to use them effectively. To comprehend language, to understand relationships between words, and to understand meanings of whole sentences and paragraphs. To present information or ideas clearly.

1. Speaking/Talking:

- ☒ Answering telephone, radio, or switchboard
- ☒ Communicating with County officials
- ☒ Communicating with general public
- ☒ Communicating with vendors
- ☒ Communicating with supervisors and/or with other employees
- ☐ Communicating with others_____
- ☐ _____
- ☐ Not essential to job function

2. Hearing/Listening:

- ☒ For communication with County officials, public, vendors, supervisors and/or other employees
- ☐ Not essential to job function

3. Reading: (ability to read and understand text)

- ☒ Essential to job function
- ☐ Not essential to job function

III. Numerical: Ability to perform arithmetic operations quickly and accurately.

- ☒ Ability to mentally perform accurate two digit calculations
- ☒ Ability to perform accurate calculations aided by a calculator, adding machine or measurement device

IV. Spatial Abilities: Ability to comprehend forms in space and understand relationships of plane and solid objects. May be used in such tasks as blue print reading and in solving geometry problems. Frequently described as the ability to “visualize” objects of two or three dimensions, or to think visually of geometric forms.

- ☒ Essential function
- ☐ Not essential function

V. Motor Coordination: Ability to coordinate eyes and hands or fingers rapidly and accurately in making precise movements with speed. Ability to make a movement response accurately and quickly.

1. Manual Dexterity: Ability to move the hands easily and skillfully. To work with the hands in placing and turning motions.

- | | |
|--|--|
| <input checked="" type="checkbox"/> Use telephone | <input checked="" type="checkbox"/> Manipulate computer keyboard and mouse |
| <input type="checkbox"/> Use switchboard | <input type="checkbox"/> Use postage machine |
| <input checked="" type="checkbox"/> Use radio/console | <input checked="" type="checkbox"/> Use hand tools |
| <input checked="" type="checkbox"/> Use a calculator | <input checked="" type="checkbox"/> Use power tools |
| <input checked="" type="checkbox"/> Use a copy machine | <input checked="" type="checkbox"/> Other: <u>must be able to use delicate measuring equipment</u> |
| <input checked="" type="checkbox"/> Use a fax machine | <input type="checkbox"/> Not essential to job function |

2. Finger Dexterity: Ability to move the fingers and manipulate small objects with the fingers rapidly or accurately. For example: electrical wiring.

- ☒ Essential to job function
- ☐ Not essential to job function

Explain: _____

VI. Physical Demands:

1. **Strength:** The quality, state or property of being strong. The power to withstand strain, force or stress.

Please check (✓) in appropriate boxes below.

Ability to manipulate materials and/or equipment (lbs)							Frequency of Manipulation		
	5-	5-10	10-15	15-25	25-50	50+	Occasionally	Frequently	Continuously
Lift						✓		✓	
Push/Pull						✓	✓		
Hold/Carry						✓			

Manipulation done from: ☒ ground to waist ☒ waist level ☒ waist to shoulder ☒ above shoulder
(Check all that apply)

Not essential to job function: ☐ Lift ☐ Push/Pull ☐ Hold/Carry (Check all that apply)

2. **Climbing:** To move up or mount by using the hands or feet.

Ladders

- ☐ Step stool
- ☒ 8' to 10' step ladder
- ☒ Extension ladder
- ☐ Other _____
- ☐ Not essential to job function

Stairways

- ☐ 1 flight
- ☒ 2 flights
- ☐ 3 or more flights
- ☐ Other _____
- ☐ Not essential to job function

Steps

- ☐ 1-2
- ☐ 2-3
- ☐ 3-4
- ☒ Other _____
- ☐ Not essential to job function

3. **Ability to Stand, Sit, Walk, and Run:**

Please check (✓) in appropriate boxes below.

Duration (hours/day)							Occasionally	Frequently	Continuously
	0-1	1-3	3-5	5-7	7-9	9+			
Stand			✓					✓	
Sit		✓					✓		
Walk		✓						✓	
Run	✓						✓		

If walking or running, over what type of terrain? ☐ flat ☐ rough ☒ both

Not essential to job function: ☐ Stand ☐ Sit ☐ Walk ☐ Run (Check all that apply)

4. **Stooping, Kneeling, Crouching, and /or Crawling:**

To bend forward or down from the middle of the waist or the middle of the back, to bend downwards, to lower oneself and/or to move freely on hands and knees.

Daily Amounts

- ☐ 0-5x ☐ 5-20x ☒ 20-50x ☐ 50+x
☐ Other _____ ☐ Not essential to job function

5. **Reaching, Handling, Fingering, and/or Feeling:**

To stretch out, extend, or put forth a bodily part. To touch or grasp something, by extending or stretching. To touch, lift, hold or operate with the hands.

Daily Amounts

- ☐ 0-5x ☐ 5-20x ☒ 20-50x ☐ 50+x
☐ Other _____ ☐ Not essential to job function

6. **Seeing:** To perceive or comprehend by the sense of sight.

Essential to job function: These characteristics are necessary (Check all that apply)

- ☒ Peripheral vision
- ☐ Night vision
- ☒ Focus (distinctness or clarity)
- ☒ Color perception (discriminate between colors)
- ☒ Depth perception (determine distance relationship between objects)

VII. Driving: The ability to transfer or convey in a vehicle.

Transmission	Standard	Automatic	Multi-Gears
Car	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Van	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Small Truck	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Medium Truck	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Large Truck	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Truck w/Equipment	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Heavy Bus Equipment	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Not essential to job function	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Other (list) _____			